

1771

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Mary E. Pierce

Application No. : 09/737,109

Filed : December 14, 2000

Entitled : **LOW BORON CONTAINING MICROFIBER  
GLASS FILTRATION MEDIA**

Docket No. : 72545-37

Group Art Unit: 1771

Examiner: A. Wachtel

Certificate of Mailing (37 C.F.R. 1.8(a))

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Feb. 6, 2004

Date of Signature and Mail Deposit

By:

  
Lisa J. Michaud, Reg. No: 44,238

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REQUEST FOR ACKNOWLEDGEMENT OF REFERENCES CONSIDERED**


Dear Sir:

Applicants hereby request that the Examiner initial the attached PTO Form SB/08 and PTO Form 1449 indicating that the references cited in Information Disclosure Statements (IDS) filed on March 20, 2001 and February 26, 2002 were considered. Copies of the Information Disclosure Statements filed on such dates, along with the return postcard receipts, are enclosed herewith. The Examiner should have considered these references as the IDS's were filed prior to the mailing date of a first Office Action on the merits.

Accordingly, acknowledgement that the cited references have been considered by the Examiner is respectfully requested.

Respectfully submitted,

Date: February 6, 2004

  
Lisa J. Michaud, Reg. No. 44,238  
Attorney for Applicant(s)

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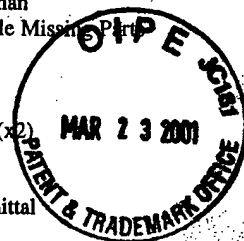


Title: Low Boron Containing Micro Fiberglass Filtration Med

Application of Mary E. Pierce

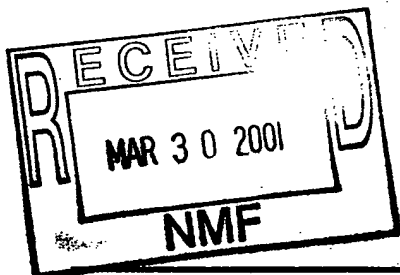
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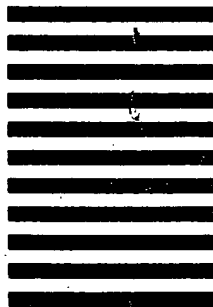


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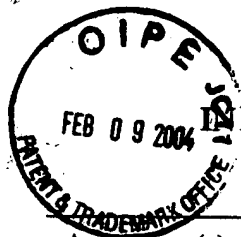
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PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Mary E. Pierce  
Application No. : 09/737,109  
Filed : December 14, 2000  
Entitled : **LOW BORON CONTAINING  
MICROFIBERGLASS FILTRATION  
MEDIA**  
Docket No. : 72545-37

Group Art Unit: Not Yet Assigned

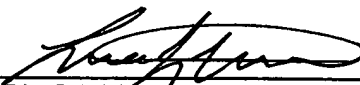
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March 20, 2001  
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By:

  
Lisa J. Michaud  
Reg. No: 44,238  
Attorney for Applicant(s)

**INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
Washington, DC 20231

Dear Sir:

Pursuant to 37 C.F.R. §1.56, §1.97 and §1.98, Applicant herewith makes of record the following references. A copy of each cited reference, and PTO Form 1449 accompanies this filing. In accordance with §1.97(b), this statement is being filed before the mailing of a first Office Action.

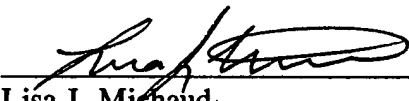
<u>Patent Number</u>	<u>Inventor(s)</u>
U.S. Patent 3,847,626	Erickson et al.
U.S. Patent 3,847,627	Erickson et al.
U.S. Patent 3,876,481	Erickson et al.
U.S. Patent 3,929,497	Clark-Monks
U.S. Patent 4,026,715	Erickson et al.
U.S. Patent 4,166,747	Neely, Jr.
U.S. Patent 4,199,364	Neely
U.S. Patent 4,396,722	Rapp
U.S. Patent 4,542,106	Sproull
U.S. Patent 5,789,329	Eastes et al.
British Patent 520,427	Cassani et al.
E.P.O. 1 074 521	Xu et al.

This statement is not to be interpreted as a representation that the cited publications are material, that an exhaustive search has been conducted, or that no other relevant information exists. Nor shall the citation of any publication herein be construed *per se* as a representation that such publications are prior art. Moreover, the Applicant understands the Examiner will make an independent evaluation of the cited publications.

No fee is believed to be due in connection with the filing of this paper. However, if any fee is due, the Commissioner is hereby authorized to charge payment of any such fees to Deposit Account No. 141449.

Respectfully submitted,

Date: March 20, 2001

  
\_\_\_\_\_  
Lisa J. Michaud  
Reg. No. 44,238  
Attorney for Applicant(s)

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One International Place  
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Fax: (617)310-9550  
969837.1

Form PTO-1449  
(Rev. 8-83)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO:  
72545-37APPLICATION NO:  
09/737,109

## INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

APPLICANT:  
Mary E. PierceFILING DATE:  
December 14, 2000GROUP ART UNIT:  
Not Yet Assigned

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE*
	AA	3	8	4	7	6	2	6	11/74	Erickson et al.	106	50	
	AB	3	8	4	7	6	2	7	11/74	Erickson et al.	106	50	
	AC	3	8	7	6	4	8	1	04/75	Erickson et al.	106	50	
	AD	3	9	2	9	4	9	7	12/75	Clark-Monks	106	50	
	AE	4	0	2	6	7	1	5	05/77	Erickson et al.	106	50	
	AF	4	1	6	6	7	4	7	09/79	Neely, Jr.	106	50	
	AG	4	1	9	9	3	6	4	04/80	Neely	106	50	
	AH	4	3	9	6	7	2	2	08/83	Rapp	501	35	
	AI	4	5	4	2	1	0	6	09/85	Sproull	501	38	
	AJ	5	7	8	9	3	2	9	08/98	Eastes et al.	501	36	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER							DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
													YES	NO
	BA	5	2	0	4	2	7		09/38	Great Britain				
	BB	1	0	7	4	5	2	1	02/2001	EPO				

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

Examiner		
	Date Considered:	
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and considered. Include copy of this form with next communication to applicant.</p>		

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Atty Dock t No.: 072545-0037

Inventor: Mary E. Pierce

Application No.: 09/737,109-Conf. #8505

Filing Date: December 14, 2000

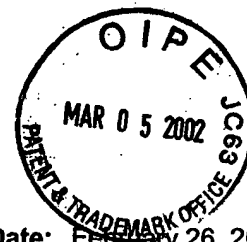
Title: LOW BORON CONTAINING MICROFIBERGLASS FILTRATION MEDIA

**D ocuments Fil d:**

Supplemental Information Disclosure Statement (2 pages)  
PTO-1449 Form w/ 14 (fourteen) references cited therein  
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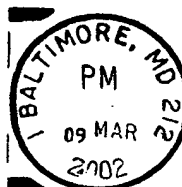
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Date: February 26, 2002

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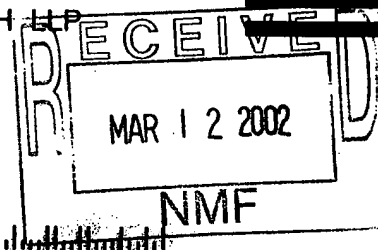
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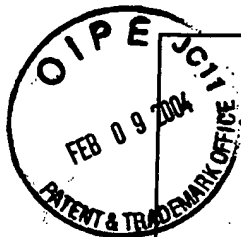


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PTO/SB/21 (08-00)

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# TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

<b>Application Number</b>		09/737,109	
<b>Filing Date</b>		December 14, 2000	
<b>First Named Inventor</b>		Mary E. Pierce	
<b>Group Art Unit</b>		1772	
<b>Examiner Name</b>		Not Yet Assigned	
<b>Total Number of Pages in This Submission</b>		<b>Attorney Docket Number</b>	072545-0037

## ENCLOSURES (check all that apply)

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<b>Remarks</b>		

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

<b>Firm or Individual Name</b>	NUTTER MCCLENNEN & FISH LLP Lisa J. Michaud
<b>Signature</b>	
<b>Date</b>	February 26, 2002

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Dated: February 26, 2002

Signature: (Lisa J. Michaud)



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Mary E. Pierce  
Application No. : 9/737,109  
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FILTRATION MEDIA**  
Docket No. : 72545-37

Group Art Unit: 1772

Examiner: Not Yet Assigned

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Feb. 26, 2002

Date of Signature and Mail Deposit

By:

Lisa J. Michaud, Reg. No: 44,238  
Attorney for Applicant(s)

Commissioner for Patents  
Washington, DC 20231

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Dear Sir:

Pursuant to 37 C.F.R. §1.56, §1.97 and §1.98, Applicant hereby makes of record the enclosed documents listed on the attached copy of PTO/SB/08A (1449). In accordance with §1.97(b), this statement is being filed before the mailing of a first Office Action.

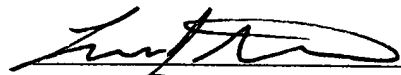


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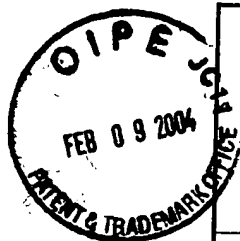
Respectfully submitted,

Date: 2/26/02

  
\_\_\_\_\_  
Lisa J. Michaud  
Reg. No. 44,238  
Attorney for Applicant(s)

Nutter, McClennen & Fish, LLP  
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Tel: (617)439-2550  
Fax: (617)310-9550

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PTO/SB/08A (10-01)

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Substitute for form 1449A/PTO				<b>Complete If Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				Application Number	09/737,109 - 8505
				Filing Date	December 14, 2000
				First Named Inventor	Mary E. Pierce
				Art Unit	1772
				Examiner Name	Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number	72545-37

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		4,687,697	08-18-1987	Cambo et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See attached Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Callinan et al., "The Manufacture and Properties of Paper Made From Ceramic Fibers," <i>NRL Report 4044, Washington, D. C.</i> , pp 1-7 (1952).	
		Gnann, A. J., "Evanite Glass Fiber Physical Properties and Measurement Techniques," Evans Products Comp., Oregon.	
		Hitachi Manufacturing Co., "Protection Countermeasure of Boron Pollution by Hepa Filter," Inspection Dept., pp 1-7.	
		Inoue et al., "Study on Boron Contamination in Clean Room," Takasago Thermal Engineering Co., Japan, pp 111-116.	
		J. C. Binzer Papierfabric GmbH, "New Technically Boron-Free Hepa Filter Materials," (1997).	
		Klocke et al., "Eliminating Boron From HEPA & ULPA Filters as a Source of Contamination in Cleanrooms," <i>The 10<sup>th</sup> International Conference on Advanced Technologies and Practices for Contamination Control, Report 4044</i> , pp 1-5 (1996).	
		Robertson, A. A., "Modification of the Mechanical Properties of Paper by the Addition of Synthetic Polymers," <i>Mechanical Effects of Adding Synthetic Polymers</i> , Montreal, Canada, pp 373-390.	
		"Standard Method for Evaluation of Air Assay Media by the Monodisperse DOP (Diocetyl Phthalate) Smoke Test," <i>ASTM Designation D 2986</i> , pp 629-632 (1971).	
		Stassen, W. N., "Dispersing Glass Fibers in the Wet Process," <i>Nonwovens / TAPPI Seminar Notes</i> , Owens-Corning Fiberglass Corp., Ohio, pp 7-12.	
		Stevie et al., "Boron Contamination of Surfaces in Silicon Microelectronics Processing: Characterization and Causes," <i>J. Vac. Sci. Technol. A 9</i> , Vol. 5, pp 2813-2815 (1991).	
		Tamaoki et al., "Manufacturing Process," Toshiba Microelectronics Corp., Japan.	
		"Testing HEPA and ULPA Filter Media IES-RP-CC021.1," <i>IES Institute of Environmental Sciences</i> , Mount Prospect, Illinois.	
		Wente et al., "Formation of Filter Materials From Glass Fibers," <i>Industrial and Engineering Chemistry</i> , Vol. 48, pp 219-222 (1956).	
		Yoshizaki et al., "Characteristics of Chemicals in the Clean Room Air," Sanki Engineering Co., Japan, pp 103-106 (1999).	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.